The Effects of Missing Out

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The Effects of Missing Out

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Abstract

This study looked at whether performance feedback on relative-rank within a performance hierarchy would influence subsequent motivation toward the task. Of particular interest, were those that consistently come as the runner-up, and those that lose in competition, and how their motivation differs from the winners. In a laboratory setting, a participant pool of university students (n = 89) completed a total of three E-tray tasks. After each task, participants were provided with feedback which placed them as either winners, runner-ups, or in last place for the duration of the experiment. Results found that there was a significant relationship between relative-rank performance feedback and perceived competence in the task. Findings also suggest that being a runner-up is increasingly more detrimental to interest and amount of time willing to spend on the task in the future the longer that an individual spends locked in a performance hierarchy. Implications for work-place practice are discussed in addition to directions for future research.

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Introduction

Workplace incentives have long stood as a valuable tool in motivating employees to increase their outputs (Gomez-Mejia, 1992). A frequent method of incentivising motivation is to hold competitions between members of an organisation, where prizes and awards are given to the individuals or teams that perform the highest. The prizes given may be of monetary value (cash and salary bonuses), or of symbolic value (trophies, plaques). The desirability of these prizes may be even further increased by presenting them at award ceremonies or organisational rituals to maximise recognition of the winners (Gallus & Frey, 2016; Oyer, 2008). Pursuing and attaining these prizes can have a profound effect on the individuals that successfully accomplish their goal of performing at the top of their team, bolstering their perceptions of competence and self-efficacy (Locke & Latham, 2002). Feelings of competence and self-efficacy are well-established as predictors of performance (Stajkovic & Luthans, 1998; Cerasoli, Nicklin, & Nassrelgrgawi, 2016).

While competition-based incentive programmes can be effective at motivating high performing individuals (Kuhnen & Tymula, 2012), these individuals represent a small minority of the overall collective that makes up an organisation. After-all, competition implies a select few winners, and many losers. Research looking at how people respond to being the runner-up has resulted in conflicting findings. Johnson & Dickinson (2010) discuss how people in support of employee of the month programs will argue that the runner-up will feel motivated to beat the winner, thus increasing their work productivity. Others, who question the effectiveness of employee of the month programs, and state that individuals who face negative feedback regarding their performance are likely to exhibit reduced performance in the future (Covin, Donovan, & Macintyre, 2003). It is possible that by organisations focusing primarily on the positive effects for those who win their workplace competitions, and ignoring the attitudes of the vast majority who lose, they are developing a warped perspective of just how effective such

incentives are. This study aims to contribute to a largely under-researched field on how performing poorly in competitive performance incentive programs influences future interest and effort in the task, and investigate the apparent variability in how these people perceive losing.

Research on team performance has suggested that individuals quickly fall into a performance hierarchy that remains relatively stable throughout the lifecycle of the team (Kuhnen & Tymula, 2012). This implies that missing out on rewards and praise can become a recurring experience in the working lives of runner ups and low performing members. The negative motivational outcomes associated with consistently coming in second (or last) place may become chronic, as their likelihood of being relived is only further increased as the performance hierarchy is cemented. With this in mind, emulating a performance hierarchy will be a primary goal of the experiment, where participants will lose or win not just the one time, but repeatedly, and an emphasis placed on examining how this affects their attitudes over time. Investigating losing within the context of a performance hierarchy is doubly important due to the repeating-cycle type effect these hierarchies create. The negative outcomes of reduced performance due to receiving negative performance feedback lead to a widening in performance between competitors, where those who were already losing are now doing even more poorly than before. This split furthers the problems associated with established performance hierarchies, as it has been found that individuals will reduce their outputs in cases where competition appears to be too tough (Kuhnen & Tymula, 2012). Feelings of discouragement due to heterogeneous levels of ability across competitors is further supported by research indicating that people are more likely to completely opt out of rank-order tournaments if there are many high-ability competitors present (Vandergrift, Yavas, & Brown, 2007).

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A further source of negative affect caused by rank-order tournaments is highlighted by social-comparison theory. This theory holds that individuals evaluate their ability by comparing them to referent others (Festinger, 1954). In cases like that of a performance hierarchy, deep feelings of failure and inadequacy are likely to arise within low performing individuals when they are constantly being compared to those of a markedly higher ability (Festinger, 1954). Looking at referent groups from an equity perspective, individuals within an organisation decide how much effort to exert based on not only their own compensation, but also the compensation of those in their referent group (Larkin, Pierce, & Gino, 2012). Rewarding only the very top performers may lead to feelings of inequity by those that are working hard but going unrewarded. Perceptions of inequity are detrimental to organisational performance as they often prompt individuals to engage in counterproductive behaviors to alleviate them (Martin, 1981). These counterproductive behaviors have been categorized as (1) adjustments made to the individual's behavior to bring them in line with the rewards, usually through decreased effort and performance, (2) altering the rewards of others through sabotage or behaving uncooperatively, and (3) exiting from the environment causing these perceptions, increasing turnover for the organisation (Nickerson & Zenger, 2008). Comparisons between the self and a referent group can often lead to negative outcomes as many times these comparisons are not founded in fact, and individuals frequently have inflated perceptions of their contributions and performance (Zenger, 1994).

Counterfactual thinking

As previously mentioned, receiving negative performance feedback can be detrimental to future performance (Covin, Donovan, & Macintyre, 2003). One might imagine this would affect only the bottom few competitors, or perhaps those that perform below the average, but this may not be the case at all. Individuals that come as runner ups in competition may experience *counterfactual thinking*, the process of dwelling on past events and conjuring

mental representations of alternative outcomes that could have been (Roese, 1997). This process consists of two functions: activation and content. *Activation* refers to the acknowledgement that an alternative outcome could have occurred, whereas *content* refers to the specific context of the event and what different paths of action could have been taken to result in the alternative outcome occurring (Roese, 1997). These counterfactual thoughts can occur in either upwards or downwards direction. An *upwards* counterfactual thought would involve imagining an outcome which is better than the outcome actually experienced, and a *downwards* counterfactual involves imagining an outcome which is worse than the outcome experienced (Markman, Gavanski, Sherman, & McMullen, 1993). Upwards counterfactual thoughts are experienced spontaneously far more frequently than downwards counterfactuals, with upwards accounting for more than 90% of the counterfactuals experienced (Roese & Olson, 1997). Meaning that an individual is far more likely to feel dissatisfied that they are in their current situation by imagining a better one, than an individual is to feel satisfied with the knowledge that they could be worse off. Those who engage in upwards counterfactual thinking have been found to experience negative affect, but some also experience positive effects (Roese, 1997). One such positive is an increased motivation to engage in the activities that were likely identified during the content phase of counterfactual thinking (Wood, 1989). However, this requires adequate feedback to activate the content phase of counterfactual thinking, as well as being provided with ample opportunity to act on the identified areas for improvement. The impact that counterfactual thinking can have on wellbeing is highlighted when examining ratings of happiness from Olympic medal winners. It has been found that bronze medal winners are significantly happier at the medal ceremony than silver medal winners (Medvec, Madey, & Gilovich, 1995). This has been attributed to those who won the silver medal making upwards counterfactual comparisons by thinking about how they just barely missed out on winning the gold. Compared to the bronze medal winners who are making

downwards counterfactual comparisons by primarily focusing on the alternative of them not being on the medal podium at all, had they placed one position lower (Medvec, Madey, & Gilovich, 1995).

Theory of planned behavior

As one might expect, several forces play a part in determining the likelihood of an individual engaging in a behavior or activity. Identifying and measuring the extent to which these forces influence an individual can be examined using the theory of planned behavior (Ajzen, 1985). The theory provides a framework for predicting the likelihood of an individual performing a specific action. This is done by combining data on the individual's attitudes toward the behavior, subjective norms, and perceived behavioral control, to make predictions on the individual's intentions to engage or avoid the behavior in the future (Ajzen, 1991). The theory of planned behavior has been found to predict these intentions with a high degree of accuracy, and these intentions, combined with perceived behavioral control, have been found to account for a considerable amount of variance in actual behavior (Ajzen, 1991). Examining the theory of planned behavior's determinants of intention, *attitudes* are defined as the degree to which an individual makes a favorable or unfavorable appraisal of the behavior in question (Ajzen, 1991). These appraisals are based on the beliefs one holds around the behavior and can be explained using expectancy-value theory (Fishbein & Ajzen,1975). Individuals form beliefs about an object by tagging it with attributes based on other associated objects, characteristics, or events (Fishbein & Ajzen, 1975). Ajzen (1991, p. 191) goes on to explain that "in the case of attitudes toward a behavior, each belief links the behavior to a certain outcome, or some other attribute such as the cost incurred by performing the behavior. Since the attributes that come to be linked to the behavior are already valued positively or negatively, we automatically and simultaneously acquire an attitude toward the behavior". Through this process, individuals

learn to favor the behaviors which have a majority of positive attributes associated with them, and avoid behaviors with a majority of negative attributes. Coming as a runner-up in competition may contribute to an individual associating an even greater number of negative attributes to a given behavior through the previously mentioned process of counterfactual thinking. The second determinant, *subjective norms* is defined as the perceived social pressure to either perform or not perform the behavior (Ajzen, 1991) This social pressure comes from the perceived likelihood that referent individuals or groups would approve or disapprove of a given behavior (Ajzen, 1991), and is likely to influence behavior to some degree within the current study due to participants being surrounded by their academic peers. Lastly, *perceived behavioral control* is concerned with the individual's perceptions around the presence or absence of required resources and opportunities (Ajzen, 1991). These perceptions determine whether the individual feels as if they are capable of influencing an outcome, should they choose to enact the specific behavior. Perceived behavioral control (PBC) relates to the perceived ease or difficulty of the task by imagining obstacles and impediments, largely based on past experiences, but also on second-hand information from friends and acquaintances (Ajzen, 1991). Heterogeneity of ability among competitors may relate to the PBC element of the theory of planned behavior. In competitions where an individual's opponents are perceived to be significantly more skilled than themselves, this disparity in ability could be viewed as a lack of control. Less skilled individuals may think that because their competitors are so far ahead, any action they take is unlikely to make any impact on such a vast difference, leaving them feeling powerless and leading to avoidance behaviors. Compounding on this, individuals who lose repeatedly are likely to have their PBC lowered even further with each new defeat (Bandura, 1982).

In the theory of planned behavior, PBC is not only used in predicting intention, but also independently influences actual behavior. Ajzen (1991) provides a rationale as to why this is

the case. In an example where intention is held constant, an individual with a greater sense of PBC is more likely to expend a greater amount of effort to see the behavior result in a successful outcome. This is due to individuals who believe they are capable of achieving a desirable outcome are more likely to persevere through difficulties, than an individual with equal intentions toward a behavior but who is less certain of their ability (Bandura, 1982). It may seem strange for an individual with lesser PBC to be equally intent on a behavior, but this can occur due to intentions being made up of attitudes, subjective norms, and PBC. An individual with a lower level of PBC may have more positive attitudes or a stronger sense of subjective norms around the behavior, through either cultural reasons or stronger relationships with others involved. These greater positive attitudes of perceptions of subjective norms result in equal intentions despite the differences in PBC. This highlights the overall rule of the theory of planned behavior; the greater an individual's perceptions of attitudes, social norms, and behavioral control toward a behavior, the more likely that individual is to actually carry out the behavior. However, these three determinants are not always equal. A meta-analysis found that with only one exception, attitudes towards behavior were significant in predicting intentions Ajzen (1991), whereas subjective norms had mixed results in its predictive power. This indicates that attitudes trump social pressure when it comes to predicting behavior. In this same meta-analysis, it was found that the contributions of intentions and PBC were variable across different situations. Generally, intentions was the strongest predictor of behavior, but in cases where the behavior in questions was on weight loss, the contribution of PBC was greater than that of intentions (Netemeyer, Burton, & Johnston, 1991; Schifter & Ajzen, 1985).

Ajzen (1991) states that the theory of planned behavior's concept of PBC is conceptually similar to Bandura (1982)'s description of perceived self-efficacy, in that it is "concerned with how people judge their capabilities and how, through their self-precepts of efficacy, they affect their motivation and behavior" (Bandura, 1982, p.122). Assuming that

these concepts are similar, the substantial literature on self-efficacy can be used to provide insight into the role it plays in not only influencing behavior, but also the conflicting findings on whether losing in a competition is a motivating or demotivating force (Johnson & Dickinson, 2010; Covin, Donovan, & Macintyre, 2003). According to Bandura (1982), differing levels of self-efficacy can account for a multitude of diverse phenomena such as, changes in coping behavior, level of stress experienced, self-regulation of refractory behavior, despondency to failure experiences, self-debilitating effects of proxy control and illusory inefficaciousness, achievement strivings, growth of intrinsic interest, and career pursuits. Sources of self-efficacy include past performance, vicarious experiences, verbal persuasion, and emotional cues (Bandura, Freeman, & Lightsey, 1999). An individual's perceived level of efficacy will often determine whether they undertake a task (in the case of high self-efficacy), or avoid a task (when the perceived difficulty exceeds their perceived ability) (Bandura, 1982; Lunenburg, 2011). This view of self-efficacy is in line with other research on the field of future behavior, where it has been found that individuals are more likely to avoid a task when they perceive their probability of winning to be low (Benabou & Tirole, 2002; Bandura, 1982). The cause of which, may be due to those who view themselves as inefficacious imagining obstacles as more formidable than they really are (Bandura, 1982). In contrast, highly efficacious individuals are more likely to exert greater effort and persist in undertaking difficult tasks (Lunenburg, 2011), leading them to re-attempt a previously failed task with even greater vigour (Koszegi, 2006). These findings seem to indicate that only individuals who are sufficiently high in self-efficacy will view losing in competition as a motivating force.

To test how information on one's relative rank in a performance hierarchy affects their subsequent motivation toward the activity in the future, the current study ran an experiment where participants will complete tasks, and receive false feedback which misleads them to

believe they are either winning, coming in second place, or losing. Hypotheses for the experiment are as follows:

H1: Participants that are assigned to the 1st place condition will report significantly higher levels of motivation toward the experiment tasks than the other conditions.

H2: Participants in the losing condition will report significantly lower levels of motivation toward the experiment tasks than the other conditions.

H3: Participants in the 2nd place condition will experience a significant decrease in motivation between each task they are announced as the runner-up.

Method

Participants

The participant pool for this experiment was a total of 89 students from the University of Canterbury, New Zealand. Participants were recruited through the use of both advertising fliers posted around the University Campus (see appendix A), and advertised on the undergraduate student psychology website. Incentives for participants consisted of course credit for undergraduate psychology students, or a $10 shopping voucher for all other participants. Additionally, participants were told that the highest performers throughout the experiment would be entered in a bonus raffle for $50 shopping vouchers. The bonus raffle for $50 vouchers was used to both motivate participants to try their best throughout the experiment, and to create a sense of winning or losing.

Equipment

E-tray exercise

The task which participants believed their performance was being assessed on was a shortened version of an E-tray exercise. E-tray exercises are designed for use in the selection process of individuals for management and administration roles. E-trays attempt to gauge individuals' ability to respond to a variety of workplace-related issues. The E-tray used in the experiment was an amended version of an example E-tray provided by *www.AssessmentDay.co.uk*. The amendments were made to make the items better suited and more related to a modern New Zealand context, but did not change the underlying content of each item. The E-tray used in this experiment was shortened to three items and placed the participant as a General Manager within a fictitious organisation. The three items consisted of (1) a customer complaint in the form of an email, (2) an email chain between employees, and (3) customer satisfaction survey results. For each item, participants were asked to identify the key issues, present a list of recommended actions, and assign a level of priority to each issue (high, medium, or low). Participants were led to believe that their answers in the E-tray would be marked by a computer program and their scores compared to the other participants'. In actuality, their scores were automatically assigned from the start, and their answers were not graded. The E-tray exercise was chosen for the experiment for a number of reasons. Firstly, E-trays are seen as fairly challenging, even in working-adult populations. This means that the E-tray exercises would be difficult for the participants used in the experiment, as well as being a task which they were likely to be unfamiliar with. Secondly, E-trays are open-ended with multiple viable solutions. Having open ended questions were assumed to be more interesting for the participants, as well as adding an element of ambiguity to the tasks. The tasks being difficult and having answers which are somewhat ambiguous was necessary, making it harder for the participants to accurately appraise the quality of their answers for themselves, and therefore increasing the

likelihood they believed the false grades they were provided. Lastly, the E-tray was chosen due to it being closely related to the tasks which an individual may undertake within a real organisation. The intention of this was to make the results from the experiment as applicable to a real-world context as possible. The amended E-tray items can be found in appendix B.

Lab setup

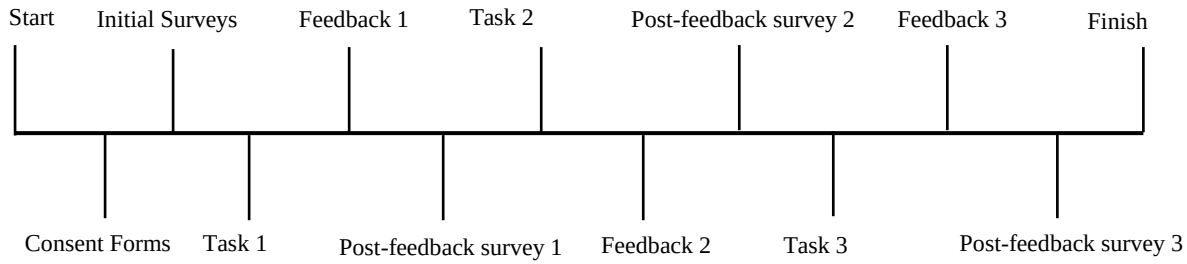
The experiment was run in a computer lab with five computers. Dividers were placed between each computer so participants could not see each other, nor the computer screens of those around them. Participants were told that their work was not going to be compared to the grades of those around them, but would instead be compared to other participants' grades from partnering Universities around New Zealand. The entire experiment was housed within the computer software E-Prime. Using the computers, participants answered the E-tray exercises by typing their answers into text boxes, and answered all pre and post-experiment surveys using a 5-point scale. E-tray items were provided to the participants via a physical folder on their desk. The use of a folder was to allow participants to refer back to the instructions or previous items as necessary.

Procedure

To determine what sort of performance feedback participants would receive, they were randomly assigned to one of the four different conditions. These conditions consisted of receiving feedback that placed the participant in either first, second, or fifth (last) place within their group, or in a control condition, in which no performance feedback was received. Participants in the control condition were told that they would find out how they had performed at the end of the experiment. Upon arrival at the experiment location, participants were greeted by the experimenter and seated at one of the five computers within the lab. From here, participants filled out consent forms and received instructions on how to take part in the

experiment. Participants were informed that they would be randomly sorted in to groups of five made up of other participants from around New Zealand, and that throughout the experiment they would be competing against these other participants, with the highest performer receiving an entry into the bonus raffle for one of four $50 vouchers. Participants were reminded they would receive a guaranteed $10 voucher or psychology course credit, even if they did not win. Participants completed an initial survey, consisting of The General Self-Efficacy Scale (GSE), The Narcissistic Personality Inventory – 13 (NPI – 13), and The Warwick-Edinburgh Mental Well-being Scale (WEMWBS). Participants were then asked to enter a username on screen, which was displayed in a list with four other usernames. These usernames were displayed under the text 'Group E'. This was done to lead participants into believing they had been placed in to a group with four other participants. The group being denoted as group 'E', was intended to further fool the participants by implying the existence of other groups 'A' through 'D'. In the event that participants knew the others in the room and the likely names they would have chosen, leading to them figuring out the groups were fake, participants were told that none of their competitors were those in the room with them. Participants were then told to read the first two pages of the folder on their desk, which provided instructions on how to answer the E-Tray exercises and background case-information on the fictional role they would be assuming throughout the E-Tray exercise. These instructions and background information can be found in appendix B, along with the amended items. Participants were given as much time as they needed to read the instructions and background information, but were not able to progress on to the next stage of the experiment until the experimenter gave them instruction to. Participants believed they were waiting while the experimenter checked the other 'competitors' were synced up at the same stage of the experiment. This was done to explain how each participant was able to receive feedback information in real time on the grades of their competitors, where it would otherwise be unlikely that everybody was finishing at the same time. From here,

participants were told how to progress and were given five minutes to read and answer Task 1 of the E-Tray exercises. Upon completion of the E-Tray exercise, feedback was provided to all of the participants assigned to the first, second and fifth place conditions. The feedback displayed their chosen username, along with a fictitious grade and the fictitious names and grades of their competitors. After receiving feedback, participants completed a post-feedback survey made up of subscales from the Intrinsic Motivation Inventory (IMI). The subscales used were Interest/Enjoyment, Perceived Competence, Effort/Importance, and Pressure/Tension. Once the survey questions were answered, participants were given a 30 second break before resuming the experiment. From here, the previous steps of answering an E-Tray, receiving feedback, and answering the survey questions were repeated two times. This resulted in each participant receiving performance feedback three times throughout the experiment, with the exception of those in the control group, who received none. The performance feedback provided remained consistent throughout the experiment. For example, those who were assigned to be in first, at each of the three feedback sessions, received information on their performance telling them they had won. Performance feedback came in the form of a score out of 100. The scores varied slightly between tasks, but were always within a few points of each other to facilitate a closeness of competition. For example, in Task 1, first place had a score of 78, second had 74, third had 71, fourth had 65, and fifth had 61. The final survey had two extra questions at the end which were (1) ‘How interested are you in taking part in a future study involving the same type of organisational problem-solving tasks?’, and (2) ‘How much time would you be willing to spend on organisational problem-solving tasks in a future study? (0 – 60 minutes)’. Additionally, the number of characters typed (NCT) each participant typed in responding to each of the 3 organisational problem solving tasks was also recorded. The figure below provides a visual display of what participants did at each stage of the experiment.



Measures

General Self-Efficacy Scale

Participants' self-efficacy was measured with the General Self-Efficacy Scale (GSE) developed by Schwarzer & Jerusalem (1995). The GSE is a 10 item scale which assesses how an individual perceives their ability to solve problems and cope with difficult situations. The GSE has high internal reliability, with Cronbach's alphas between .76 and .90 (Schwarzer & Jerusalem, 1995). To keep scales across the experiment consistent, the GSE was changed from the standard 4-point Likert scale, to a 5-point Likert scale with answers ranging from *strongly disagree* to *strongly agree*. A copy of the GSE can be found in appendix C.

The Narcissistic Personality Inventory – NPI13

Participants' narcissism was measured with the Narcissistic Personality Inventory – 13 (NPI – 13) developed by Gentile et al., (2013). The Narcissistic Personality Inventory is the most widely used measure of trait narcissism, but was made up of 40 items, leading to the NPI-13 being developed and favoured for this experiment. The NPI-13 is made up of 13 items and provides both a total score, and 3 subscale scores (Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness). The NPI-13 has comparable convergent and discriminant validity to the NPI-40, and maintains adequate overall reliability (Gentile et al., 2013). A copy of the NPI-13 can be found in appendix D.

Warwick-Edinburgh Mental Well-being Scale

Participants' wellbeing was measured using the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS). The WEMWBS consists of 14 positively-worded questions which reportedly makes it easy to complete, clear, and unambiguous (Clarke et al., 2011). The WEMWBS has a Cronbach's alpha of .89 and high test–retest reliability of .83 (Brown et al., 2011). A copy of the WEMWBS can be found in appendix E.

Intrinsic Motivation Inventory

Participants' attitudes towards the task was evaluated using subscales taken from the Intrinsic Motivation Inventory (IMI). While intrinsic motivation specifically, was not of particular interest in this study, several of the IMI's subscales covered areas highly relevant to individuals' task related attitudes and beliefs about ability. The subscales used were Interest/Enjoyment (7-items), Perceived Competence (6-items), Effort/Importance (5-items), and Pressure/Tension (5-items). Items were reworded slightly to fit with the activities being completed in the experiment. The inclusion or exclusion of certain subscales of the IMI have been found to have no impact on the results of the others. The IMI has shown to be a valid and reliable measure across numerous settings (McAuley, Duncan, & Tammen, 1989; Choi, Mogami, & Medalia, 2009). A copy of the IMI subscales used can be found in appendix F.

Results

Composite scores were created for the motivation dimensions Interest / Enjoyment (IE), Perceived Competence (C), Effort / Importance (EF), and Pressure / Tension (PT). This was done following exploratory factory analysis to examine the factor structure of this measure. Doing so, resulted in the Interest / Enjoyment subscale having item 4 removed from Post-feedback survey 1, items 3 and 4 removed from Post-feedback survey 2, and no items being removed from Post-feedback survey 3. All items were retained for the Perceived Competence

subscale. The Effort / Importance subscale had items 2 and 5 removed from Post-feedback survey 2. Lastly, the Pressure / Tension subscale had items 1 and 3 removed from all Post-feedback surveys. All other items were retained.

Descriptive statistics were examined to check mean scores for each of the motivation scales, number of characters typed per answer, likelihood of participating in a future repeat of the experiment, and how much time participants would be willing to dedicate to organisational problem-solving tasks in a future experiment.

Table 1: Mean Interest / Enjoyment scores

Condition	IE Survey 1		IE Survey 2		IE Survey 3	
	Mean	SD	Mean	SD	Mean	SD
Control (n = 23)	3.28	0.99	3.07	1.08	2.93	0.97
1st (n = 22)	3.49	0.78	3.25	0.81	3.25	0.87
2nd (n = 23)	3.36	0.90	2.86	0.83	2.75	0.95
Last (n = 21)	2.93	1.01	2.65	1.30	2.68	1.05

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Table 2: Mean Competence scores

Condition	C Survey 1		C Survey 2		C Survey 3	
	Mean	SD	Mean	SD	Mean	SD
Control (n = 23)	2.87	0.91	2.83	0.77	2.80	0.81
1st (n = 22)	3.33	0.62	3.41	0.61	3.55	0.75
2nd (n = 23)	3.22	0.84	3.11	0.73	3.23	0.79
Last (n = 21)	2.68	1.12	2.56	1.17	2.57	1.22

Table 3: Mean Effort / Importance scores

Condition	EF Survey 1		EF Survey 2		EF Survey 3	
	Mean	SD	Mean	SD	Mean	SD
Control (n = 23)	3.66	0.51	3.25	0.87	3.38	0.84
1st (n = 22)	3.70	0.60	3.35	0.89	3.38	0.90
2nd (n = 23)	3.63	0.62	3.22	0.90	3.35	0.83
Last (n = 21)	3.50	0.83	2.90	1.02	3.07	1.03

Table 4: Mean Pressure / Tension scores

Condition	PT Survey 1		PT Survey 2		PT Survey 3	
	Mean	SD	Mean	SD	Mean	SD
Control (n = 23)	2.16	0.95	2.19	1.00	2.23	1.15
1st (n = 22)	2.02	0.70	1.94	0.88	1.97	1.08
2nd (n = 23)	1.96	0.66	2.00	0.83	1.81	0.99
Last (n = 21)	1.98	0.86	1.78	0.94	1.84	1.01

Table 5: Mean number of characters typed in answer field

Condition	NCT Task 1		NCT Task 2		NCT Task 3	
	Mean	SD	Mean	SD	Mean	SD
Control (n = 23)	359	128	433	129	453	143
1st (n = 22)	407	101	492	132	567	94
2nd (n = 23)	379	139	493	193	505	190
Last (n = 21)	400	186	472	169	497	156

Table 6: Mean ratings of likelihood of taking part again

Condition	Mean	SD
Control (n = 23)	3.13	1.10
1st (n = 22)	3.91	1.27
2nd (n = 23)	3.22	1.20
Last (n = 21)	3.48	1.25

Table 7: Mean amount of time willing to spend taking part again (minutes)

Condition	Mean	SD
Control (n = 23)	33.70	13.08
1st (n = 22)	35.45	12.99
2nd (n = 23)	25.65	10.69
Last (n = 21)	30.24	16.00

Figure 1: Comparison of mean scores for Interest / Enjoyment

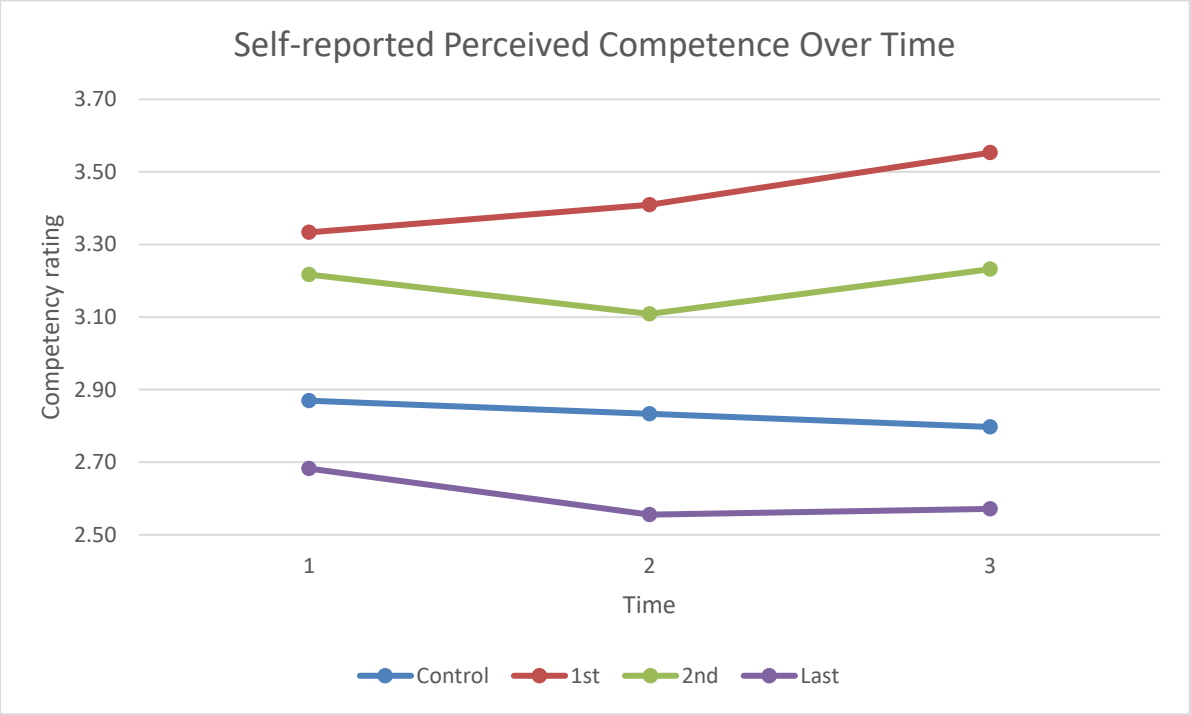

Figure 2: Comparison of mean scores for Perceived Competence

Figure 3: Comparison of mean scores for Effort / Importance

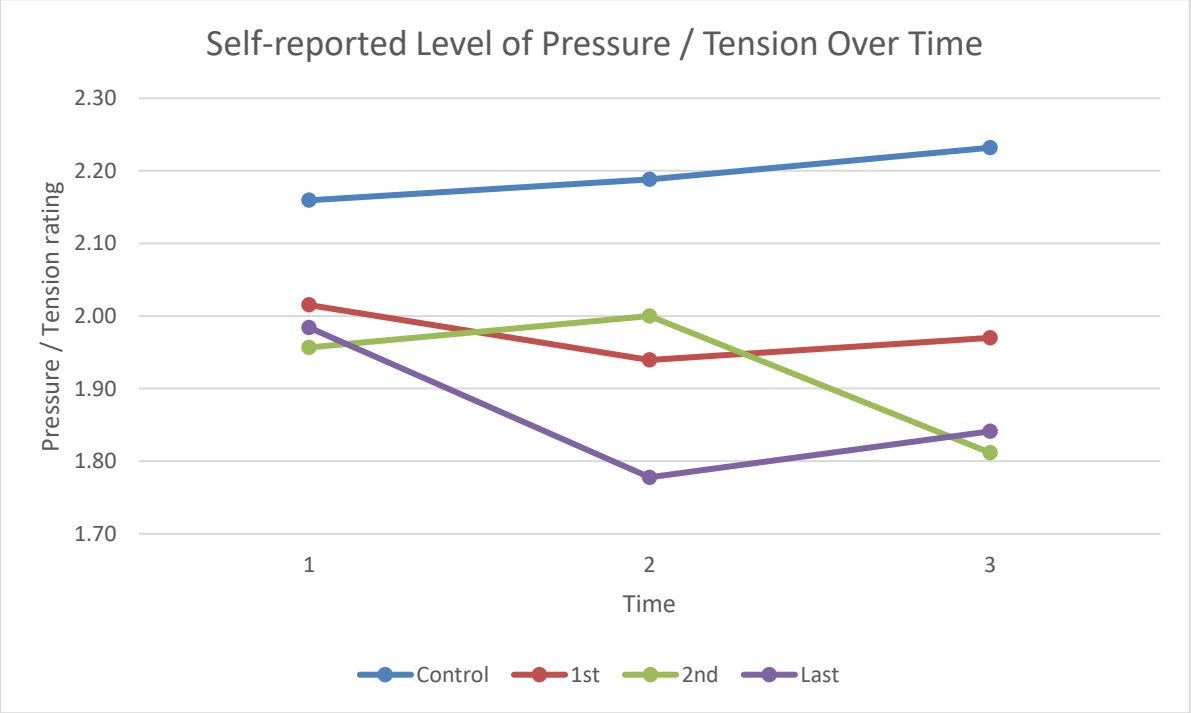

Figure 4: Comparison of mean scores for Pressure / Tension

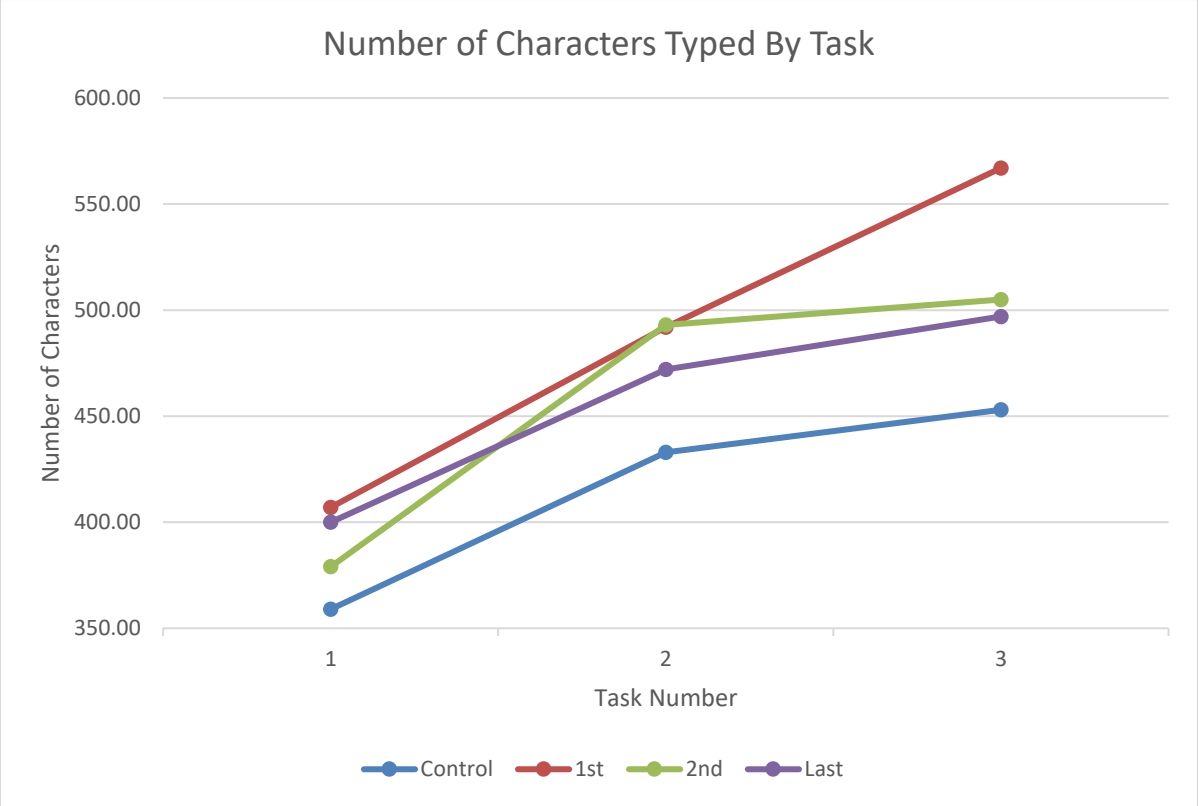

Figure 5: Comparison of mean number of characters typed

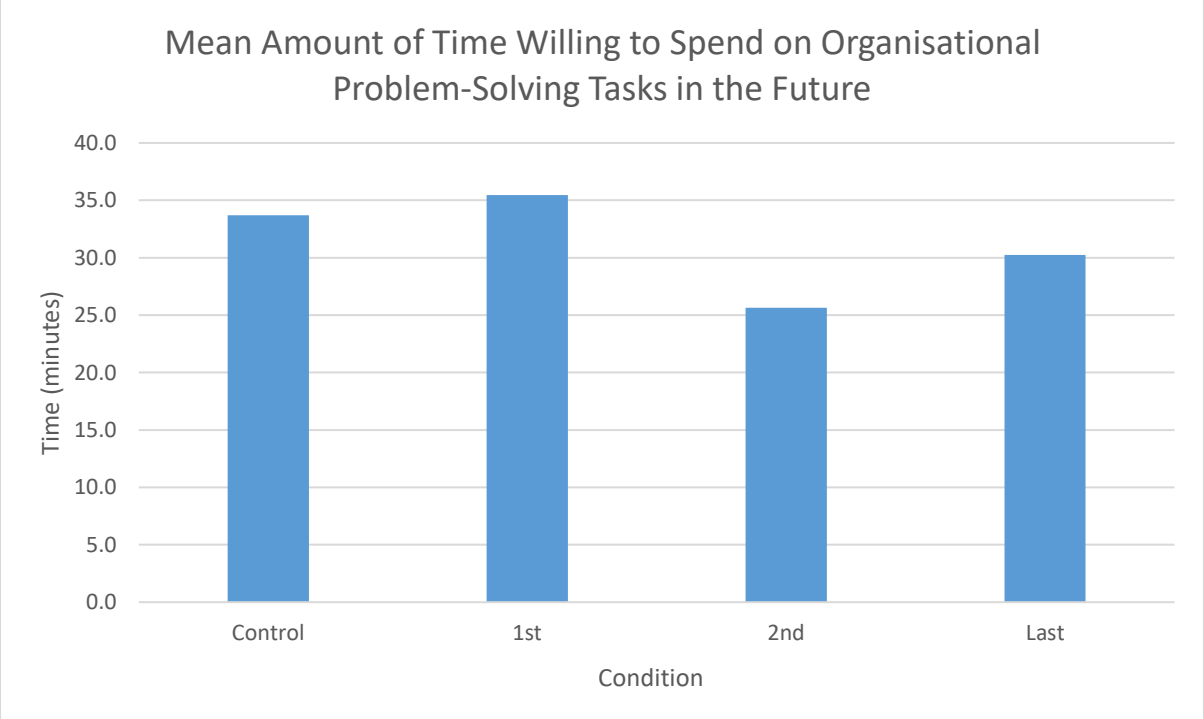

Figure 6: mean amount of time willing to spend on organisational problem solving tasks in the future

Table 8: Correlations between variables of interest (N = 89)

	IE 1	IE 2	IE 3	C 1	C 2	C 3	EF 1	EF 2	EF 3	PT 1	PT 2	PT 3	GSE	Wellbeing	NCT1	NCT2	NCT3	Participate	Time
IE 1																			
IE 2	**.85***																		
IE 3	**.76***	**.80***																	
C 1	**.50***	**.51***	**.51***																
C 2	**.46***	**.51***	**.56***	**.85***															
C 3	**.52***	**.54***	**.64***	**.78***	**.90***														
EF 1	**.43***	**.44***	**.47***	.23*	.25*	.24*													
EF 2	**.54***	**.59***	**.58***	.25*	**.29***	**.29***	**.73***												
EF 3	**.48***	**.60***	**.67***	**.41***	**.42***	**.46***	**.71***	**.81***											
PT 1	-.26*	-.25*	-.27*	**-.45***	**-.34***	**-.39***	.08	.09	-.08										
PT 2	-.10	-.17	-.16	**-.31***	-.25*	**-.28***	.12	.16	-.01	**.82***									
PT 3	-.05	-.06	-.11	**-.30***	**-.30***	**-.34***	.08	.18	.04	**.69***	**.82***								
GSE	.08	.07	.12	**.30***	**.30***	**.33***	.04	.06	.12	-.24*	-.22*	-.25*							
Wellbeing	.11	.14	.11	**.33***	**.30***	**.31***	.16	.11	.18	-.24*	-.21*	**-.35***	**.50***						
NCT 1	.14	.11	.09	.07	.014	.06	.05	-.07	-.03	-.04	.00	.00	.18	.12					
NCT 2	.07	.09	.13	-.02	.02	.02	.14	.07	.03	.06	.10	.03	.19	.00	**.62***				
NCT 3	**.34***	**.37***	**.42***	.20	.19	.23*	**.35***	.27*	**.36***	.05	.13	.01	.10	.11	**.49***	**.67***			
Participate	**.59***	**.55***	**.60***	.24*	.24*	**.36***	**.29***	**.44***	**.46***	-.13	-.10	-.03	.16	.03	.06	.09	.25*		
Time	**.28***	**.38***	**.38***	.14	.10	.15	.24*	**.35***	**.42***	-.16	-.10	.08	.08	-.08	.01	.01	.04	**.43***	

Correlations

Correlations were run to examine which variables were significantly related, the results of which are displayed in Table 8. Looking at the table, we can see that Interest / Enjoyment was significantly correlated with Competence at each of the time points r = .50, p < .01, r = .51 p < .01, and r = .64, p < .01 respectively. The same is true for Interest / Enjoyment with Effort / Importance, where r = .43, p < .01, r = .59, p < .01, r = .67, p < .01 respectively. The only time that Interest / Enjoyment was significantly negatively correlated with Pressure / Tension was at time 1 r = -.26 p < .05. Interestingly, the only time where Interest / Enjoyment was significantly correlated with the number of characters typed, was at time 3 r = .42, p = < .01. Interest / Enjoyment at all time points was significantly correlated with likelihood of doing the organisational problem solving tasks again (time 3 r = .60, p < .01), and how much time participants would be willing to spend on these repeat tasks (time 3 r = .38, p < .01). Competence was significantly correlated with Effort / Importance at all 3 time points, r = .23, p < .05, r = .29, p < .01, r = .46, p < 01 respectively. Competence was also significantly negatively correlated with Pressure / Tension at all 3 time points, r = -.45, p < .01, r = -.25, p < .05, r = -.34, p < .01 respectively. The only time competence was related to the number of characters typed, was at time 3 r = .35, p < .01. Interestingly, Competence at time 3 was significantly correlated to the likelihood of participating again r = .36, p < .01, but was not correlated to how much time the participants would be willing to spend doing so. Effort / Importance at time 3 was significantly correlated with the number of characters typed time 3 r = .36, p < .01. Effort / Importance time 3 was also significantly correlated with the likelihood of participating again r = .46, p < .01, and how much time participants would be willing to spend doing so r = .42, p < .01. General Self-Efficacy was significantly correlated with competence at all 3 time points, r = -.30, p < 01, r = -.30, p < 01, r = -.33, p < 01 respectively. Additionally, General Self-Efficacy was significantly negatively correlated with Pressure / Tension at all 3 time points, r = -.24, p < .05, r = -.22, p < .05, r = -.25, p < .05 respectively. Likewise, Wellbeing was significantly correlated with Competence at all 3 time points, r = .33, p < .01, r = .30, p < .01, r = .31, p < .01 respectively. Lastly,

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Wellbeing was significantly negatively correlated with Pressure / Tension at all 3 time points, $r = -.24$, $p < .05$, $r = -.21$, $p < .05$, $r = -.35$, $p < .01$ respectively.

ANOVAS

One-way within subjects ANOVAs were conducted to compare the effect of receiving performance feedback on task Interest / Enjoyment, Perceived Competence, Effort / Importance, Pressure / Tension, and number of characters typed in 1st, 2nd, Last, and control conditions. There was a significant effect of performance feedback on Perceived Competence at both time 2 [$F (3, 85) = 4.076$, $p < .01$], and time 3 [$F (3, 85) = 5.132$, $p < .01$]. A post hoc Tukey test showed that 1st place ($M=3.41$, $SD =0.61$) and last place ($M=2.56$, $SD=1.17$) conditions differed significantly at time 2 at $p < .05$. The same test also showed that the 1st place condition ($M=3.55$, $SD=0.75$) differed significantly at time 3 to both last place ($M=2.57$, $SD=1.22$) and control conditions ($M=2.80$, $SD=0.81$) at $p < .05$. The ANOVA determined that there were no statistically significant differences between groups at any of the three time points for Interest / Enjoyment, Effort / Importance, or Pressure / Tension. However, when examining Figure 1 for mean differences between groups in Interest / Enjoyment, the mean difference between the 1st place condition and the 2nd place condition ratings grew from a difference of .14 at time 1, to .38 at time 2, and finally .50 at time 3. Post hoc Tukey test showed that this gap in Interest / Enjoyment between the 1st place ($M=3.25$, $SD=0.87$) and 2nd place ($M=2.75$, $SD=0.95$) conditions grew to become statistically significant at a $p < .1$. The ANOVA revealed at a lower significance threshold that there was a significant effect of performance feedback on the number of characters typed at time 3 $F (3, 85) = 2.199$, $p = < .1$. A post hoc Tukey test showed that 1st place ($M=567$, $SD=94$), and control ($M=453$, $SD= 143$) conditions differed significantly at $p < .1$. At a lower significance threshold, differences between groups for the final question on how much time they would be willing to dedicate to a future study involving the same tasks was found to be statistically significant $F(3, 85) = 2.405$, $p < .1$. A post hoc Tukey test showed that 1st place ($M=35.45$, $SD=12.99$), and 2nd place ($M=25.65$, $SD=10.69$) differed significantly.

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Effects over time

General linear model repeated measures was used to examine whether participant responses changed over time. Significant effects of time were found on the variables of Interest / Enjoyment [$F(2, 84) = 18.83$, $p < .0005$; Wilk's $\Lambda = 0.691$, partial $n^2 = .31$], Effort / Importance [$F(2, 84) = 21.62$, $p < .0005$; Wilk's $\Lambda = 0.66$, partial $n^2 = .34$], and Number of Characters Typed [$F(2, 84) = 30.37$, $p < .0005$; Wilk's $\Lambda = 0.580$, partial $n^2 = .42$]. However, no significant effects were found for any of the variables of interest when examining whether these changes over time affected participants differently depending on the condition they were assigned to.

Table 9: Effects of time and time x condition (N = 89)

	SS	*df*	MS	F	P	ηp2
IE time	6.68	2	3.34	17.82	.00	.17
IE time x condition	1.19	6	.20	1.1	.39	.04
C time	.189	1.64	.12	.70	.50	.01
C time x condition	..83	4.9	.17	1.03	.40	.04
EF time	8.80	2	4.40	23.20	.00	.21
EF time x condition	1.06	6	.18	.94	.47	.03
PT time	.21	2	.10	.51	.60	.01
PT time x condition	.85	6	.14	.67	.67	.02
NCT time	671446	2	335723	36.45	.00	.30
NCT time x condition	48241	6	8040	.87	.52	.03

Discussion

Results show that hypotheses 1 and 2 were partially supported. Participants assigned to the 1st place condition reported the highest levels of Perceived Competence, Interest/Enjoyment, and Effort / Importance, while participants in the last place condition reported the lowest. However, these differences were only statistically significant between groups for the variable of Perceived Competence. Hypothesis 3 was also partially supported. Participants in the 2nd place condition did see a substantial drop in their Interest / Enjoyment when compared to the other conditions, as illustrated in Figure 1. However, this trend was not mirrored in the Effort / Importance variable, nor were these changes statistically significantly different to the changes which occurred over time in the other conditions. Partial support for this hypothesis can be seen when examining trends in the data, where in numerous cases during early stages of the experiment, the data from the 2nd place condition participants was most similar to those in the 1st, but by the end of the experiment it was most similar to those who came last.

Despite many of the results not being statistically significant, some interesting patterns emerged which are certainly worth discussing. Looking at Figure 1, the conditions for 1st place, Last place, and Control all seem to follow a fairly similar trend of changing Interest / Enjoyment over the course of the experiment. However, the 2nd place condition has a much more substantial decrease when comparing times 1 and 2, before following the same trend as the other conditions between times 2 and 3. This decrease seems to indicate that runner-ups are reasonably happy coming as the runner up the first time around, but coming in second-best can significantly decrease subsequent interest in the activity. Examining the mean number of characters typed in Figure 5 may provide some answers as to why this decline in Interest / Enjoyment has occurred. Participants in the 2nd place condition saw the largest increase of any condition in the length of their answers between Tasks 1 and 2, followed by the smallest increase between Tasks 2 and 3. From this, we can infer that the 2nd place participants exerted a larger amount of effort on Task 2, and upon seeing their efforts did not result in any change to their relative rank, became disinterested. One can then speculate that this disinterest may be responsible for the

plateau effect in answer lengths for Tasks 2 and 3, where all other conditions saw even further growth. These findings are in line with those of Carpenter & Sanders (2004), who found that significant differences between first place and runner-up prizes is negatively related to performance, and Pfeffer & Langton (1993) where large differences in prizes lead to reduced satisfaction and work productivity. Examining the reported levels of Pressure / Tension in Figure 4 adds further credence to the theory of participants giving up. Observing the trends in how Pressure / Tension changed over time, we can see that the 2nd place condition participants saw an increase after receiving performance feedback for the first time, as both parties had something to lose, 1st place condition participants wanted to maintain their victory, and 2nd place condition participants were doing their best to come out on top. However, this is contrast with the change after the second piece of performance feedback, where 1st place participants continued to experience greater pressure, the 2nd place participants saw a substantial decrease. This decrease may be a sign of the participants mentally 'checking out' and no longer caring for the results of the task. In much the same way that 2nd place participants stopped caring after reception of performance feedback for the second time, last-place participants stopped caring after the first, seeing an almost identical decrease in Pressure / Tension. Figure 4 highlights this, with both lines almost running parallel to each-other. Suggesting that coming as the runner up allows the participant an initial glimmer of hope, before reaching the same inevitable end of no longer caring in the event that they fail again. While the reduction in Pressure / Tension is comparable between 2nd and last place participants in insolation, the way it translates into attitudes towards repeating the task could not be more different.

When asked how much time participants would be willing to dedicate to doing organisational problem-solving tasks in a future experiment, those who came in 2nd place were prepared to give significantly less time than the participants in the control and 1st place conditions. Most surprisingly of all was the 2nd place participants were willing to give a substantially lesser amount of time than even those participants who came in last place for the duration of the experiment. This finding indicates that, as one might imagine, coming in second-best for a second time, after making a real effort to improve,

can leave a bitter taste in one's mouth. Along the same vein as the findings of Medvec et al. (1995), where silver Olympic medallists suffer from negative affect due to focusing more on what they failed to achieve than do bronze medallists, 2nd place participants in the current study became disinterested in engaging with organisational problem-solving tasks in the future. This also supports Medvec et al. (1995)'s statement that the effects of counterfactual thinking extend far beyond the medal podium at the Olympic Games and can have significant implications in occupational settings.

Ajzen (1991)'s theory of planned behavior can aid us in understanding why variables Interest / Enjoyment, Competence, and Effort / Importance only correlated significantly with the number of characters typed for task 3, and not tasks 1 and 2. It is possible that acquisition of attitudes toward the activity is one which takes time to build up. This may be the case with the organisational problem-solving tasks used in this experiment due to the participants being students who were unlikely to have come across such tasks before, resulting in no pre-existing attitudes. It can be assumed that the participants experienced at least some degree of the effects of subjective norms while participating. There are expectations on the way in which one conducts themselves around others, and a sense of obligation to try is likely to have occurred due to being rewarded for their participation. These subjective norms may have kept participants' attitudes in check for a time, until enough attitudes toward the task were acquired and became the dominant force in determining behavior. This theory is in line with the previously mentioned findings of Ajzen (1991), where attitudes were found to be a much more consistently powerful factor than subjective norms in predicting behavior. Perceived behavioral control may have also played a part in delaying the negative attitudes associated with losing, manifesting in the more tangible performance variable of number of characters typed. It is possible that participants had to lose multiple times before their perceived behavioral control fell far enough for them to come to the conclusion that no matter what they do, they are not capable of beating their opponents.

The current study did turn up some interesting findings in the variability of how people perceive losing. Looking at Table 5 on the mean number of characters typed for each task, we can see evidence

that not every participant who was in the 2nd place condition was necessarily demotivated by being the runner-up as previously postulated. Participants in the 2nd place condition had the largest standard deviation in their number of characters typed on tasks 2 and 3. This indicates that there exists some factor(s) which influence perceptions around coming as a runner-up to the point of it being either a positive or a negative for subsequent performance. One such factor is the previously mentioned the work of Bandura (1982), which shows that self-efficacy affects the likelihood of individuals re-attempting a task. A further factor which may affect this is competitiveness, where it has been found that the negative effects of a competitive climate within an organisation were most detrimental in those who scored lower in trait competitiveness (Fletcher, Major, & Davis, 2008). Further supporting the idea that competition is not necessarily bad, Table 5 also shows that participants in the Control condition typed the least number of characters in each of their answers. This result likely occurred due to the control condition participants not having a reference group for making comparisons and evaluating their performance between tasks (Festinger, 1954).

Limitations & Future Directions

Issues with sample size made finding statistically significant results difficult. These issues stemmed from having difficulty finding an adequate sample size to fill four conditions. A future study with a more suitable sample size would also be able to examine which attributes lead to the variability in participants' responding to losing. On top of self-efficacy and trait competitiveness influencing the effectiveness of competitions (Bandura, 1982; Fletch et al., 2008), it is likely that other variables also play a part and should be researched further. Expanding on the work of Kuhnen and Tumula (2012), the role of homogeneity vs heterogeneity of ability in competition on the outcomes of interest, effort, stress, and performance could be looked into.

A further limitation comes from the nature of the experiment asking participants to answer attitudinal questions immediately following a win or a loss. Similar to the issues identified with measuring attitudes immediately after Olympic medal ceremonies (Medvec et al., 1995), it is impossible to know for sure

that participants' responses would be stable over time and reflect their long-term opinions of the activity. For example, it is entirely possible that despite the 2nd place participants seemingly being bitter toward the idea of doing the activity further, upon giving them time to go home to cool-off and reflect on the activity, they may change their mind and be willing to return with greater vigour in the future. There is also limited applicability to a real-world context when using a sample of students. While the tasks were chosen to emulate what an individual might be tasked with doing in their working day, the motivations behind doing the tasks are different. The students who made up the participant pool in the study were doing the activities for a one-time reward against people they do not know and would not be required to see the examiner or the other competitors in the future, versus a working adult who is not only required to maintain a working relationship with those involved, will also have knowledge on who it is they are competing against. This idea ties back in to the work of Ajzen (1991), where those who must maintain a working relationship with their competitors would be under the effects of a greater sense of subjective norms, and knowing their competitors may result in their being pre-existing attitudes towards the competition. Ideally, future research would be conducted in a working-population with sufficient time between tasks and measures to mediate effects of immediacy and applicability. Further limitations may have come from participants not valuing the top prize for winning in the tournament highly enough. Prizes in competition must be valued sufficiently high enough to facilitate effort. Competitions where the chance of any given competitor winning the prize is low, must be coupled with larger prizes than in cases where winning is likely (Lazear, 2018). Participants were not competing for a guaranteed prize of $50, but an entry in to a raffle with an unknown number of other eligible winners, making it impossible for participants to accurately value said prize. To ensure top prizes are seen as worthwhile for participants, future research could include a measure of how highly participants value the prizes for winning.

Implications for practice

Facilitating motivation in an organisation through the use of rank-order competitions can be a difficult and highly variable process. To do so successfully requires a deep understanding and knowledge of the organisation, as well as on all of those who are competing. Unless there is homogeneity of ability across all competitors, and those competitors are highly self-efficacious and competitive, it is likely to lead to dissatisfaction and avoidance from a significant portion of those involved (Kuhnen & Tymula, 2012; Bandura, 1982; Fletcher et al., 2008). In cases where an organisation does meet the necessary criteria for competition to be effective, it actually can result in successful outcomes in terms of firm performance. Firms that utilise competition among candidates for promotion to executive positions have been found to perform more highly than those which have a groomed successor (Mobbs & Raheja, 2012). However, this increased firm performance comes at a cost. The uncertainty which accompanies competition is often seen as a source of stress (Beehr, 1998), indicating that these are only short-term gains in performance and are not sustainable due to the costs associated with increased employee turnover (Parasuraman & Alutto, 1984), and poor health outcomes (Lovallo, 2015). Avoiding some of the uncertainty associated with competition can be done by shifting who it is that an employee is competing against. Rather than pitting people against each other, competition can be created internally by challenging employees to instead do better than their past selves. Doing so is an increasingly popular method of performance appraisal (Abaraham, 2013; 2014), and is much more likely to lead to higher perceptions of perceived behavioral control. This is due to by competing against one's past performance, how well they do is entirely in their own hands and how much effort they put in, rather than being influenced by what could be deemed to be impossibly tough competition. Doing so in this manner serves the additional benefit of cutting out competition-related counter-productive workplace behaviors, as competition can often promote the engagement in as a means of getting an edge over your co-workers (Henderson & Fredrickson, 2001). A final method for the implementation of healthy competition involves allowing competitors the opportunity to gain from competing, regardless of whether they win

or lose. Competitions which operate in this manner have been linked to competitors exerting greater effort overall (Gillis, McEwan, Crook, & Michael, 2011).

Conclusion

In this experiment, there was found to be a significant relationship between receiving feedback of one's position within a performance hierarchy, and subsequent perceived task competence. While significant effects were not found for variables of Interest / Enjoyment, Effort / Importance, and Pressure Tension between groups, differences in Interest / Enjoyment between competition winners and runner-ups rapidly increased over time, to the point of significance at a lower p threshold. This difference between winners and runner-ups led to runner-ups being willing to spend significantly less time than the winners on doing the same task in the future. Implications of this are that coming as the runner-up can be a good thing initially, but practitioners should be wary of the formation of performance hierarchies, as repeatedly coming as the runner-up becomes increasingly detrimental to motivation over time.

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Appendix

Appendix A. Advertisement

Research Participants Wanted for Problem Solving Task

I am running an experiment on how personality traits influence problem solving ability and methods, as part of my MSc in Applied Psychology. All participants will receive **guaranteed rewards + additional entries in a raffle for bonus $50 Westfield Vouchers**

Participation Details:

- Participants must be enrolled at UC and 18+ years old
- **QUICK**: One session (Approximately 35 minutes)
- **EASY & INTERESTING**: Will involve filling out questionnaires and completing 3 problem-solving tasks

Earn $10 Westfield Voucher + Win Entries in Raffle for $50 Westfield Vouchers

To sign up or request more information, please email Tim DeVries at:
tim.devries@pg.canterbury.ac.nz

Problem Solving Study tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz	**Problem Solving Study** tim.devries@pg.canterbury.ac.nz

Instructions (E-Tray)

You are about to complete a shortened version of an E-Tray exercise designed to be used in the selection process of individuals for management and administrative roles. E-Tray exercises are a common selection tool that attempt to gauge your ability to respond to a variety of workplace related issues. Please read the instructions on this page before proceeding to the exercise. Your assistant has left you 3 items (documents) marked for your attention. These appear in a variety of forms just as you would use in an office environment. Some of these items may appear to describe isolated issues while others may link to previous items.

You need to review each item and then provide the following:

- A list of actions written in brief, which include your analysis of the key issues in each of the items.

- The priority that you would assign for dealing with each item. Please use these 3 categories: high priority, medium priority, and low priority. When determining these, a balance needs to be struck between urgent tasks (that need to be completed as soon as possible) and important tasks (that have a high impact on the business).

- Please include who should be involved. For example, if you want to forward an item to a colleague, or if you want to call a meeting.

Instructions (Experiment)

As part of the experiment, you will be competing against students from other universities around New Zealand. You will be sorted into a group with four other students. Please note, the students in your group WILL NOT be any of the students you are sitting in the room with today. Your responses to the exercises will be graded, and you will receive a score to be compared with the scores from other students in your group.

Only the student that receives the highest grade in each exercise will receive a bonus raffle entry in the pool of $50 shopping vouchers. Regardless of your performance, all students will receive either 100-level PSYC course credit (for PSYC-106 students), or a $10 Westfield Shopping voucher (for all other participants).

Please remain seated and stay silent for the duration of the experiment.

Do not look at the screens of the participants sitting around you.

If you have a question or any issues during the experiment, please raise your hand and the experimenter will come to assist you.

The Effects of Missing Out
Appendix B. Amended E-Tray Exercise continued.

Background Information

Role

Your name is Jamie Rawlings and you joined Rest Well Lodges through its Graduate Trainee Program. As the company's top performing graduate Trainee you were appointed to an Assistant Manager position in Auckland at one of the chain's flagship hotels. Your rapid ascent has continued, and you have just been appointed as General Manager of the struggling Rest Well Lodges in Willington. The outlet has been given 6 months to increase its profitability or it faces closure.

Rest Well Lodges is a chain of mid-range hotels that has suffered over recent years due to the proliferation of value hotel chains and the high levels of competition at both the high and low ends of the hospitality industry. Furthermore, the rise of high-end pubs and craft breweries has affected profits from external customers using the hotel restaurant facilities.

Rest well Lodges has been slow to pick up on trends in hospitality, such as outsourcing and online check-in. This is particularly true of the smaller Rest Well Lodges outlets. Each outlet is run relatively independently from the Head Office, although each if expected to adhere to brand values.

Your immediate team consists of the Restaurant Manager and the Hotel Manager; each of whom supervises three Team Leaders. You have overall responsibility for all hotel function. You and your colleagues also deal with a range of external suppliers.

Managing the Willington outlet is just the opportunity that you have been waiting for. This is your chance to hone your leadership and problem-solving skills and put your managerial training and experience into practice. You have the Area Manager's authority to take whatever decisions you feel are necessary. She was asked you for regular updates, so you are advised not to delay any important issues.

Today is the 26th of July 2017 – your first day as General Manager of the Wellington Hotel

The Effects of Missing Out
Appendix B. Amended E-Tray Exercise continued.

Item 1 – Customer Complaint

21st March 2017

Dear Sir

I recently stayed three nights at the Rest Well Lodge, Willington, while on business in the area. I chose your hotel because I assumed it would be a cut above the many budget hotel chains that offer cheaper room rates. Unfortunately, I felt very disappointed with the level of service offered to a business traveller such as myself.

While booking my room, I was assured that the hotel has Wi-Fi, but on arrival, that was only available in the lobby and not in the guest rooms. I thus had to work in the evenings in a noisy and rather shabby lobby. I also felt that the reception staff did not go out of their way to assist me when I requested directions and restaurant recommendations. The long queues to speak to the reception staff were extremely frustrating, particularly when I was rushing to morning meetings. On my last morning, I had to wait nearly twenty minutes before I could check out because only one person was manning the desk at what must surely have been the busiest time of the day. I cannot fault the quality of the food at your Eat Well restaurant. However, with my early start I would have preferred a self-service breakfast option that I could take-away with me.

In future when I return to the Willington area, I will be choosing a different hotel – one that caters to a businessman's needs.

Best Regards,

John Powell

Sales Director, Tech Solutions

Please:

- **Identify the key issues**
- **Present a brief list of recommended actions**
- **Assign a level of priority to each issue (High, Medium, Low)**

Item 2 – Email Chain Between Employees

From: Brian.parker@restwell.co.nz
To: Paolo.diaz@restwell.co.nz
Date: 20th July 13:13
Subject: deep clean

I just wanted to let you know that the steak special we ran last weekend was a big success. Many customers mentioned how delicious it was! Well done! We had a few complaints that it was served cold, but I know that wasn't the kitchen's fault – Nikki had too few waiters working over the weekend. By the way, we really need to schedule a deep clean of the kitchen. We got called up on a number of points in the Food Hygiene report last month, and need to rectify them ASAP as the inspectors could return at any time.

Best,
Brian

From: Paolo.diaz@restwell.co.nz
To: Brian.parker@restwell.co.nz
Date: 20th July 14:11
Subject: specials

Brian,

Glad the steak went down well with the customers. Did you know that we ran out of beef on Friday night? We had to do an express butcher's order to re-stock for Saturday and Sunday –bit pricey, I'm afraid. This really isn't the ideal time to run a deep clean – back of house is short-staffed at the moment. I'm sure Adam can get in some temp cleaners quickly, as long as you don't mind turning a blind eye about work permits. The last lot he got in didn't speak much English, so they may not have had health and safety training. Marie and I have been busy developing new recipes and menu ideas. I know Stuart wasn't keen on running theme nights, but could we look at it again with the new manager? I love the idea of a mid-week curry night – my jalfrezi is out of this world! A Friday fish and chips special might also be fun. Tapas are very hot in New Zealand right now – how about a special gourmet Spanish tasting menu? Korean barbecue is also very trendy, but we'd need to install charcoal grills at every table. I can get a quote if you are interested. Have you given any thought to my request to install an industrial wood-fired pizza oven? I know $5,500 is a lot, but the pizzas would be really tasty and authentic. Cheers, Paolo.

The Effects of Missing Out
Appendix B. Amended E-Tray Exercise continued.

From: Brian.parker@restwell.co.nz
To: Paolo.diaz@restwell.co.nz
CC: Pat.rawlings@restwell.co.nz
Date: 20th July 15:06
Subject: specials

Terrific – there's no shortage of ideas there. Let's talk these over when Jamie starts. We need to focus on changes that will attract local customers into the restaurant. Have you given any thought to updating the children's menu, like I asked last week?

Regards,
Brian

Please:

- **Identify the key issues**
- **Present a brief list of recommended actions**
- **Assign a level of priority to each issue (High, Medium, Low)**

Appendix B. Amended E-Tray Exercise continued.

Item 3 – Customer Satisfaction Survey Results

Hotel customers are offered the opportunity to complete a customer satisfaction survey in their room. This survey uses the following rating scale: 1 = Very dissatisfied; 2 = Somewhat dissatisfied; 3 = Neither satisfied nor dissatisfied; 4 = Somewhat satisfied; 5 = Very satisfied.

No.	Question	Average
3	**How satisfied were you with the following?**	
	• Hotel facilities	2.8
	• Room facilities	2.0
	• Room décor	2.5
	• Lobby décor	2.6
	• Car parking facilities	2.9
6	**How satisfied were you with the warmth and friendliness of the staff working in the following areas?**	
	• Reception	2.1
	• Restaurant	2.9
	• Housekeeping	3.1
	• Room service	3.2
7	**How satisfied were you with the availability and helpfulness of the staff working in the following areas?**	
	• Reception	2.2
	• Restaurant	2.4
	• Housekeeping	3.0
	• Room service	3.3
9	**How satisfied were you with the cleanliness of the following areas?**	
	• Reception	4.4
	• Restaurant	2.3
	• Your room	4.0
10	**If you used the restaurant how would you rate the following?**	
	• Menu prices	3.1
	• Menu choices	4.2
	• The speed of the service	2.2
	• The quality of the service	2.3
	• The quality of the food	4.5
16	**Did you use our room service?**	9% Yes
17a	**Did you use our restaurant?**	19% Yes
17b	**If yes, do you have any comments about our restaurant?**	
	➢ *I only used the restaurant for breakfast and the staff were very helpful. They did seem to be very overworked, but were doing their best!*	
	➢ *We all liked our dinner. That said, I wasn't expecting to have to wait such a long time to get it. Not great when you are eating with two impatient toddlers.*	

The Effects of Missing Out

	➢ *The excellent food served in the restaurant exceeded my expectations for this class of hotel.* ➢ *We came to your restaurant when we heard about your new chef. We'll be back since we only live around the corner. We will also recommend it to our friends living locally!* ➢ *I found the housekeeping staff to be very efficient and well-organised, but your hotel could offer more additional services / facilities.* ➢ *I stay with you a lot but last time I was informed open arrival that I did not have a reservation. I then had to pay a higher rate for my room (ever heard of corporate rates?). Luckily, this was covered by my business expenses anyway.* ➢ *Your reception staff did not seem interested in helping me find a taxi quickly – one even suggested that I make the call myself!* ➢ *My kettle was not in working order and the coffee sachets were not refilled after my first night. I really needed some caffeine to work on my report.* ➢ *The desk in my room was a little small for working with my laptop and spreading out my documents. Also, most of the hotels I've stayed in have provided at least some writing paper for business travellers. A trousers press would have been useful as my suit got wrinkled in my case.* ➢ *Your restaurant décor is starting to look a bit tired. The kids' playground could also do with some paint.* ➢ *Only one complaint. Call me fussy, but the soap was not replaced in my bathroom after my first night and the housekeeper didn't seem to understand me when I requested a replacement.* ➢ *Your hotel had no Wi-Fi available in my room!* ➢ *I am a big fan of Rest Well Lodges and stay in one in Wellington when I visit my parents. I just wish I could use www.extramile.co.nz to book my stays!* ➢ *The other Rest Well Lodges we have stayed at were always very family friendly. While it is great that you have provided cots and highchairs, your reception staff were not very welcoming to my children and one even asked them to quiet down.*	

Please:

- **Identify the key issues**
- **Present a brief list of recommended actions**
- **Assign a level of priority to each issue (High, Medium, Low)**

The Effects of Missing Out
Appendix C. General Self-Efficacy Scale (GSE)

(1) I can always manage to solve difficult problems if I try hard enough

(2) If someone opposes me, I can find the means and ways to get what I want

(3) It is easy for me to stick to my aims and accomplish my goals

(4) I am confident that I could deal efficiently with unexpected events

(5) Thanks to my resourcefulness, I know how to handle unforeseen situations

(6) I can solve most problems if I invest the necessary effort

(7) I can remain calm when facing difficulties because I can rely on my coping abilities

(8) When I am confronted with a problem, I can usually find several solutions

(9) If I am in trouble, I can usually think of a solution

(10) I can usually handle whatever comes my way

The Effects of Missing Out
Appendix D. Fragile ego / narcissism – NPI-13

1) I like having authority over other people.

2) I have a strong will to power.

3) People always seem to recognize my authority.

4) I am a born leader.

5) I know that I am a good person because everybody keeps telling me so.

6) I like to show off my body.

7) I like to look at my body.

8) I will usually show off if I get the chance.

9) I like to look at myself in the mirror.

10) I find it easy to manipulate people.

11) I insist upon getting the respect that I am due.

12) I expect a great deal from other people.

13) I will never be satisfied until I get all that I deserve.

The Effects of Missing Out
Appendix E. Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

(1) I've been feeling optimistic about the future

(2) I've been feeling useful

(3) I've been feeling relaxed

(4) I've been feeling interested in other people

(5) I've had energy to spare

(6) I've been dealing with problems well

(7) I've been thinking clearly

(8) I've been feeling good about myself

(9) I've been feeling close to other people

(10) I've been feeling confident

(11) I've been able to make up my own mind about things

(12) I've been feeling loved

(13) I've been interested in new things

(14) I've been feeling cheerful

The Effects of Missing Out
Appendix F IMI Scale Items

Interest/enjoyment

1. I would enjoy doing another organisational problem task
2. Doing another organisational problem task would be fun
3. Doing another organisational problem task would be boring (R)
4. I would not be able to focus my attention on a further organisational problem task (R)
5. It would be interesting to do another organisational problem task
6. Doing another organisational problem task would be quite enjoyable
7. While I was doing the activity, I was thinking about how much I enjoyed it

Perceived Competence

1. I think I will do well in the next organisational problem task
2. I think I will do pretty good on the next organisational problem task, compared to the other students
3. I feel pretty competent when it comes to future organisational problem tasks
4. I think I will be satisfied with my performance on the next organisational problem task

Appendix C. Scale Items continued

5. I would be skilled at doing another organisational problem task
6. I do not think I will do very well on the next organisational problem task (R)

Effort/Importance

1. I would put a lot of effort into the next organisational problem task I complete
2. I would not try very hard the next time I do an organisational problem task (R)
3. I would try very hard the next time I do an organisational problem task
4. It is important for me to do well on the next organisational problem task
5. I would not put much energy into the next time I complete an organisational problem task (R)

Pressure/Tension

1. I would not feel nervous about doing another organisational problem task (R)
2. Doing another organisational problem task would make me feel tense

The Effects of Missing Out

Appendix F IMI Scale Items continued

3. I would find it relaxing to do another organisational problem task (R)

4. Completing another organisational problem task would make me feel anxious

5. I will feel pressured if I do another organisational problem task

The Effects of Missing Out
Appendix G. Participant Information Sheet

Department: Psychology
Tim DeVries
Telephone: +64 3 369 4397
Email: tim.devries@pg.canterbury.ac.nz

Problem Solving Study
Information Sheet for participants

This study will examine the role of problem-solving ability in completing an ambiguous task.

If you choose to take part in this study, you will be asked to **answer three problem-solving questions and fill out four questionnaires**. Completion of all tasks will take **35 minutes** of your time.

Participation is voluntary and you have the right to withdraw at any stage. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts on October 1st, 2019 it will become increasingly difficult to remove the influence of your data on the results.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public. To ensure confidentiality, names and student ID numbers will recoded on the dataset, and data collected will be stored in a locked room on a password-protected computer. Nobody beyond the researcher and the supervisor will have access to the responses you give throughout the experiment. Data will be securely stored by the supervisor (Dr. Joana Kuntz) for 5 years, before being destroyed. A thesis is a public document and will be available through the UC Library.

Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of results of the project.

The project is being carried out as a requirement for completing a Masters Degree in Applied Psychology by Tim DeVries under the supervision of Dr. Joana Kuntz, who can be contacted at joana.kuntz@canterbury.ac.nz. She will be pleased to discuss any concerns you may have about participation in the project.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent form and return it to the researcher before the experiment begins.

Appendix G. Participant Information Sheet continued

Department: Psychology
Tim DeVries
Telephone: +64 3 369 4397
Email:
tim.devries@pg.canterbury.ac.nz

Problem Solving Study
Consent Form for Participants

- ☐ I have been given a full explanation of this project and have had the opportunity to ask questions.
- ☐ I understand what is required of me if I agree to take part in the research.
- ☐ I understand that participation is voluntary, and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- ☐ I understand that any information or opinions I provide will be kept confidential to the researcher and lead supervisor and that any published or reported results will not identify the participants. I understand that a thesis is a public document and will be available through the UC Library.
- ☐ I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after five years.
- ☐ I understand that I can contact the researcher Tim DeVries (tim.devries@pg.canterbury.ac.nz) or supervisor Dr. Joana Kuntz (joana.kuntz@canterbury.ac.nz) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)
- ☐ I would like a summary of the results of the project.
- ☐ By signing below, I agree to participate in this research project.

Name:_____ Signed:_____ Date:_____

Email address *(for report of findings, if applicable)*:

_____

Please return this form to the researcher

The Effects of Missing Out

Appendix H. Participant Debrief Sheet

Department: Psychology
Tim DeVries
Telephone: +64 3 369 4397
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Debrief

Thank you for participating in the study. The **purpose of the study was to investigate the effect receiving or missing performance incentives has on belief in one's ability and motivation.**

You were led to believe that your ability to answer business problem-solving questions was being assessed and compared to the work of the other participants. However, **the scores you and the other participants received were all pre-determined and your actual answers were not scored.**

Participants were assigned at random to one of four groups: 1) receiving the highest score across all tasks, 2) receiving the second highest score across all tasks, 3) receiving the lowest score across all tasks, or 4) receiving no performance feedback. **To reiterate, the scores you received do not reflect your actual performance on the task.** This deception was necessary to guarantee participants would remain in the same performance position for the duration of the experiment.

It is hypothesized that those who were assigned to be runner-ups or to come in last place for the duration of the experiment will report significantly lower ratings of motivation and self-efficacy toward further tasks.

All participants will have an equal chance of winning gift cards in the prize raffle, regardless of which group they were assigned. If you would like to request your data is removed from the analysis, you can do so without penalty by speaking with the experimenter or emailing Tim DeVries at tim.devries@pg.canterbury.ac.nz

Thank you again for your participation.

Any inquiries or complaints can be addressed to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, (human-ethics@canterbury.ac.nz) or (03 364 2987).

If you are interested in learning more about the study, or if you have any concerns regarding any aspect of this study, please feel free to contact Tim DeVries (tim.devries@pg.canterbury.ac.nz) or Dr Joana Kuntz (joana.kuntz@canterbury.ac.nz). If any distress was experienced due to the study, please contact either Lifeline (0800 543 354), or the UC Health Centre (03 364 2402).